

# Hearing Impairment

## What is a Hearing Impairment?

According to the Arizona Revised Statutes (ARS) §15-761(9) and as determined by evaluation, a hearing impairment means "a loss of hearing acuity ... which interferes with the child's performance in the educational environment and requires the provision of special education and related services."

Hearing losses can be categorized into four types. They are conductive, sensorineural, mixed, or central. The types refer to where the loss occurs. A conductive loss is one where some condition prevents sound from reaching the middle ear. Some conditions are **obstructions** that can often be removed with surgery. Other conductive losses are caused by disease, fusion of the bones of the middle ear, or birth defects. Hearing aides or other assistive technology (AT) devices may improve some of these losses. The other types of losses: sensorineural, mixed and central, are not as easily aided by amplification, because more than just the hearing organ (ear) is involved. The sensory hair cells of the inner ear may be damaged. The auditory nerve may be impaired or the central nervous system itself may be involved. In many of these cases, repair is often not possible.

The amount of hearing loss can vary. It can be a mild loss or profound loss. Some losses affect only the high sound frequencies while some affect low frequencies. The range of sound and the amount of distortion received by the aided ear will depend on the type and degree of hearing loss. An AT evaluation can help determine what modifications or strategies and what low-technology to high-technology devices might be most helpful in the classroom.

Hearing impairment can be hereditary or can be caused by accident or illness. Also, viral infections before or after birth can cause hearing impairment. Exposure to loud noises for long periods is also a common cause of hearing losses.

## How Common is a Hearing Impairment?

In the 2000-01 school year, 1,920 students in Arizona were classified as having hearing impairments and received special education services. The number represents 0.21 percent of the 922,2804 children enrolled in Arizona public schools as of October 1, 2001.

## What is the Effect of a Hearing Impairment on a Child?

Oral, or spoken language is learned by hearing it spoken. Therefore, the length of time a child had the ability to hear before losing that sense will affect learning. Just as the type and the amount of the loss differs, so must the type of education vary to accommodate the type of loss.

The focus for teaching students with hearing losses must be on teaching them to communicate. Depending on the type of hearing loss, the way the individual learns, the preference of the family and the individual, an oral or a manual method may be used. Sometimes a combination of sign language and speech is taught. If amplification is helpful, a student might be fitted with a hearing aid or another amplifying device.

Speech and articulation are also an important part of communication. Since hearing impaired persons are unable to receive some sounds accurately, they often cannot articulate words clearly. These students may benefit from training in voice and articulation. For most children with hearing impairments, language acquisition and language development are significantly delayed. As a result, some may incorrectly estimate the child's intelligence as low. Therefore, teaching a child to communicate **early** is important in preventing severe delays in learning. Early intervention programs include teaching the family how to stimulate their hearing impaired infant, and cues to use for building language.

## **References**

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National Information Center on Deafness. (1989). *Deafness: A fact sheet*. Washington, DC: Gallaudet University.

## **Books**

Adams, J. W. (1997). *You and your deaf child: A self-instructional guide for parents*. Washington, DC: Gallaudet University Press.

Lowell, G. R. (2000). *Elena's ears or how I became the best big sis in the world*. Washington, DC: American Psychological Association.

Luterman, D. (1999). *The young deaf child*. Timonium, MD: York Press.

Maguire, A. (2000). *Special people, special ways*. Arlington, TX: Future Horizons.

Marschark, M. (2001). *Educating deaf students: From research to practice*. Oxford, UK: Oxford University Press.

Millman, I. (2000). *Moses goes to school*. Baltimore, MD: Brookes Publishing.

## **Organizations/ Hotlines/Web Sites**

Alexander Graham Bell Association, 3417 Volta Pl. NW, Washington, DC 20007-2778, 202-337-5220, 800-255-4817, <http://www.agbell.org/>

American Deafness and Rehabilitation Association (ADARA), P.O. Box 727, Lusby, MD 20657-0727, 410-495-8440 V/TTY, [www.adara.org/](http://www.adara.org/)

American Speech – Language – Hearing Association, 10801 Rockville Pike, Rockville, MD 20852, 800-498-2071, <http://www.asha.org/>

Arizona State School for the Deaf, 1200 Speedway, P.O. Box 85000, Tucson, AZ 85754-5000, 520-770-3700, [www.asdb.org/](http://www.asdb.org/)

Community Outreach Program for the Deaf, 268 W. Adams, Tucson, AZ 85705, 520-792-1906 or 800-234-0344

Enhancing Arizona's Parent network (EAPN), <http://www.ade.az.gov/ess/eapn>

John Tracy Clinic, 806 W. Adams Blvd., Los Angeles, CA 90007, 800-522-4582, <http://www.johntracyclinic.org/>

National Association of the Deaf, 814 Thayer Ave., Silver Spring, MD 20910-4500, 301-587-1788 or 301-587-1789 TTY, <http://www.nad.org/>

National Deaf Education and Deafness Clearinghouse, Gallaudet University, 800 Florida Ave., NE, Washington, DC 20002, 202-651-5000 TTY/V, [www.gallaudet.edu](http://www.gallaudet.edu)

National Information Center for Children and Youth with Disabilities (NICHCY), P.O. Box 1492, Washington, DC 20013-1492, 800-695-0285, [www.nichcy.org](http://www.nichcy.org)

National Institute on Deafness & Other Communication Disorders Clearinghouse, 31 Center Drive MSC, Bethesda, MD 20892-2320, 800-241-1044 or 800-241-1055 TTY; fax 301-907-8830, <http://www.nidcd.nih.gov/>

National Stuttering Association, 4071 E. La Paloma, Ste. A, Snaheim Hills, CA 92807, 800-364-1677, <http://www.nsastutte.org/>

Parent Information Network, Arizona Department of Education, Exceptional Student Services, 1535 W. Jefferson, Phoenix, AZ 85007, 800-352-4558 or 602-364-4015, [www.ade.az.gov/ess/pinspals/](http://www.ade.az.gov/ess/pinspals/)

SHHH, 7910 Woodmont Ave., Ste. 1200, Bethesda, MD 20814, 301-657-2248 or 301-657-2249 TTY, <http://www.shhh.org/>

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